

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): An image forming method for forming an image by supplying a developer from a development unit to a latent image on a latent image carrying member ~~for image development~~, the method comprising the steps of:

forming a thin layer of developer on a developer carrying member by generating an electric field in a developer supply zone between the developer carrying member of the development unit and a developer conveyance member; and

conveying the thin layer of developer formed on the developer carrying member to a development zone facing the latent image carrying member.

Claim 2 (Currently Amended): An image forming method according to Claim 1, wherein a ~~the~~ developer image is developed from the latent image by putting the thin layer of developer formed on the developer carrying member into contact with the latent image carrying member to develop an image from the latent image.

Claim 3 (Currently Amended): An image forming method according to Claim 1, wherein a ~~the~~ developer image is developed from the latent image by generating an alternating electric field in the development zone to supply the thin layer of developer on the developer carrying member to the latent image carrying member in a non-contact manner.

Claim 4 (Original): An image forming method according to Claim 1, wherein the developer conveyance member conveys the developer using electrostatic effect to supply the developer to the developer carrying member.

Claim 5 (Currently Amended): An image forming method according to Claim 1, wherein the developer is electrically charged by a friction taking place between the developer conveyance member and the developer when the developer is conveyed by the developer conveyance member.

Claim 6 (Original): An image forming method according to Claim 5, wherein a protective layer made of a silicone-based resin is disposed on the surface of the developer conveyance member.

Claim 7 (Original): An image forming method according to Claim 4, wherein a relationship of $|V_s| > |V_d|$ holds where V_d represents a surface movement velocity of the developer carrying member, and V_s represents a developer conveyance velocity of the developer moving on the developer conveyance member.

Claim 8 (Original): An image forming method according to Claim 1, wherein an alternating field is generated between the developer carrying member and the developer conveyance member, both of which are arranged to be out of contact from each other.

Claim 9 (Original): An image forming method according to Claim 1, wherein a powder pump supplies the developer to the developer conveyance member from a developer container.

Claim 10 (Currently Amended): An image forming method according to Claim 1, wherein a recovery means for recovering the developer on the developer carrying member is arranged downstream of the development zone and upstream of the developer supply zone along a the surface movement direction of the developer carrying member.

Claim 11 (Currently Amended) An image forming method according to Claim 1, wherein a developer charge amount changing means for changing an amount of electrical charge of the developer on the developer carrying member is arranged downstream of the development zone and upstream of the developer supply zone along the surface movement direction of the developer carrying member.

Claim 12 (Original): An image forming method according to Claim 1, wherein an electrically conductive member for applying a voltage to the developer on the developer carrying member is arranged downstream of the development zone and upstream of the developer supply zone along the surface movement direction of the developer carrying member.

Claim 13 (Original): An image forming method according to Claim 1, wherein a toner having a spherical shape is used as the developer.

Claim 14 (Original): An image forming method according to Claim 13, wherein the toner has a sphericity of 0.96 or larger.

Claim 15 (Currently Amended): An image forming method according to Claim 1, wherein a relationship of $P/\{(V_d/V_p)(V_s/V_d)\} < 20 \mu\text{m}$ holds and a surface movement direction of the developer carrying member is aligned in the same direction as a surface movement direction of the latent image carrying member in the development zone, where P represents a pitch of electrodes in the developer conveyance member, Vs represents a developer conveyance velocity of the developer moved by the developer conveyance member, Vd represents a surface movement velocity of the developer carrying member, and Vp represents a surface movement velocity of the latent image carrying member.

Claim 16 (Original): An image forming apparatus for forming an image by supplying a developer from a development unit to a latent image on a latent image carrying member for image development,

wherein the image forming apparatus forms the image using an image forming method according to one of Claims 1 through 15.

Claim 17 (Original): An image forming apparatus according to Claim 16, comprising a process cartridge having the development unit and the latent image carrying member integrated with the development unit in a unitary body, wherein the process cartridge is detachably mounted in the image forming apparatus.

Claim 18 (Original): A process cartridge integrating into a unitary body a latent image carrying member and at least a development unit for developing a developer image from a latent image on the latent image carrying member, wherein the process cartridge is detachably mounted in an image forming apparatus according to Claim 16.

Claim 19 (New): An image forming apparatus comprising:

- a toner hopper;
- a development roller; and
- an electrostatic conveyance member between said toner hopper and said development roller,

wherein said electrostatic conveyance member comprises a pattern of electrodes configured to set up an electric field along said electrostatic conveyance member.

Claim 20 (New): An image forming apparatus according to Claim 19, further comprising:

- a supply roller configured to supply a toner from said toner hopper to the electrostatic conveyance member by a rotation.

Claim 21 (New): An image forming apparatus according to Claim 20, wherein said toner hopper comprises an agitator configured to agitate the toner and to move the toner to the supply roller.

Claim 22 (New): An image forming apparatus according to Claim 21, wherein said development roller is positioned close to an end of the electrostatic conveyance member and is separated from said electrostatic conveyance member by a supply gap so that said electrostatic conveyance member is not contacting the development roller.

Claim 23 (New): An image forming apparatus according to Claim 22, wherein an

electrical field between the electrostatic conveyance member and the development roller is configured so as to cause a toner to jump from the electrostatic conveyance member onto the development roller over the supply gap.

Claim 24 (New): An image forming apparatus according to Claim 22, wherein said supply gap has a width between 0.1mm and 0.6mm.

Claim 25 (New): An image forming apparatus according to Claim 23, further comprising:

a photoconductive drum; and

an electrostatic latent image formed on the photoconductive drum,

wherein the toner forms a layer on a surface of the development roller, the layer on the surface of the development roller is in contact with the photoconductive drum at a transfer zone and the layer is applied to the electrostatic latent image on the photoconductive drum at the transfer zone, forming a toner image.

Claim 26 (New): An image forming apparatus according to Claim 20, further comprising:

a powder pump configured to fluidize the toner in the toner hopper by air.

Claim 27 (New): An image forming apparatus according to Claim 26, wherein said toner is conveyed by the powder pump through a conveyance tube to the supply roller and said toner is electrically charged by the powder pump.

Claim 28 (New): An image forming apparatus according to Claim 23, further comprising:

a photoconductive drum; and
an electrostatic latent image formed on the photoconductive drum,
wherein the toner forms a layer on a surface of the development roller, the toner is applied by an electrical field to the electrostatic latent image on the photoconductive drum, forming a toner image, and wherein the development roller and the photoconductive drum are separated by a gap.

Claim 29 (New): An image forming apparatus according to Claim 28, wherein said gap has a width in a range between 0.2mm and 0.6mm.

Claim 30 (New): An image forming apparatus according to Claim 28, wherein said electrical field is generated by an AC voltage and a DC bias voltage.

Claim 31 (New): An image forming apparatus according to Claim 19, wherein said electrostatic conveyance member includes a silicone-based resin on an upper surface.

Claim 32 (New): An image forming apparatus according to Claim 19, wherein said electrostatic conveyance member comprises:

a plurality of electrodes arranged at intervals along said electrostatic conveyance member; and

a power supply configured to apply at least a 3-phase voltage to the electrodes to generate said electrical field.

Claim 33 (New): An image forming apparatus according to Claim 19, wherein said pattern of electrodes generates an electric field and the electrostatic conveyance member is configured to convey a toner with said electric field along the electrostatic conveyance member.

Claim 34 (New): An image forming apparatus according to Claim 33, wherein the toner is triboelectrically charged when being conveyed on the electrostatic conveyance member.

Claim 35 (New): An image forming apparatus according to Claim 19, wherein said electrostatic conveyance member comprises mutually adjacent electrodes connected to different electrode terminals.

Claim 36 (New): An image forming apparatus according to Claim 35, comprising three electrode terminals.

Claim 37 (New): An image forming apparatus according to Claim 35, wherein one of said electrode terminals has a polarity which is opposite to a polarity of a toner.

Claim 38 (New): An image forming apparatus according to Claim 37, wherein the other terminals have a same polarity as said polarity of said toner.